



## Commission on Peace Officer Standards and Training

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Subject: **Research Overview – SAFE Driving Campaign**

### Executive Summary

The California Commission on Peace Officer Standards and Training (CalPOST) has undertaken a SAFE (Situation-Appropriate, Focused, and Educated) Driving Campaign to reduce the number of law enforcement officers (LEOs) killed and injured in traffic collisions. Research investigating causes and interventions related to LEO traffic collisions is a significant component of the campaign. The overall goal is to reduce fatal LEO collisions to a rate comparable with the general driving public. The primary benchmark, however, is to reduce fatal LEO collisions by 15% by 2015. This benchmark is consistent with the National Institute for Occupational Safety and Health (NIOSH) National Occupational Research Agenda (NORA) Strategic Goal 6.<sup>1</sup> This document summarizes the research component of the campaign, including proposed, completed, and in-progress research.

*SAFE Driving research will quantify the risk and benefit of operational and training policies and procedures and provide empirically-validated policy and training options. This data-driven model will allow for local customization of training and policies while concurrently saving lives and reducing costs. CalPOST estimates that its SAFE Driving Campaign will have a national impact—saving 9 lives and \$16,000,000.00 annually by 2015.*

Several manageable variables contribute to LEO traffic collisions. Examples of these variables include policy, training, fatigue, distraction, supervision, management, and culture. CalPOST has designed research to investigate the implications of each of these variables and interaction effects among them. Every law enforcement agency (LEA) and LEO in California is considered in one or more of the research designs. The California law enforcement population is an excellent sample of approximately 10% of national law enforcement and includes urban, suburban, rural, large, medium, small, mountain, coastal, and desert LEAs. As such, it is generalizable to all LEAs and LEOs in America, thereby making this research important and useful for the entire law enforcement industry.

***THIS IS THE FIRST LARGE-SCALE, COMPREHENSIVE STUDY OF LEO COLLISION CAUSES/INTERVENTIONS.***

This research plan is being coordinated by CalPOST and conducted in conjunction with seven nationally-recognized principal investigators. Mixed quantitative and qualitative methods include epidemiological and statistical studies, controlled laboratory experiments, quasi-experimental and interrupted time series field studies, in-depth interviews, surveys, and review of documents and artifacts. These varied methods ensure a broad understanding of individual and aggregate aspects of LEOs, LEAs, and the traffic collisions in which they are involved.

Primary data sources include (a) reportable collisions for California LEOs 1998-2006; (b) training records for California LEOs 1959-2008; (c) collision data for on-duty California LEO collisions 1997-2007; (d) training surveys for California LEO basic training academies; (e) operational, policy, and deployment surveys for California's 600-plus LEAs; (f) in-depth interviews with chiefs/sheriffs, managers, supervisors, and officers in matched samples from California LEAs; and (g) comparison data from LEAs outside of California as available.

### Research Team Members

CalPOST has assembled a multi-disciplinary research team to investigate LEO traffic collision causes and feasible interventions. Members include:

- Geoff Alpert, Professor
  - University of South Carolina – Department of Criminology and Criminal Justice
  - <http://www.cas.sc.edu/crju/faculty/alpert/alpert.html>
- Mary Dodge, Associate Professor & Director
  - Criminal Justice Programs
  - University of Colorado Denver – School of Public Affairs
  - <http://www.cudenver.edu/Academics/Colleges/SPA/FacultyStaff/Faculty/Pages/MaryDodge.aspx>
- Tom Rice, Research Epidemiologist
  - Traffic Safety Center & Department of Environmental Sciences
  - University of California, Berkeley – Institute of Transportation Studies
  - <http://www.tsc.berkeley.edu/contact/tomrice.html>
- Ron Tarr, Senior Research Faculty & Director
  - Research in Advanced Performance Technology and Educational Readiness (RAPTER)
  - University of Central Florida – Institute for Simulation and Training
  - [http://rapter.ist.ucf.edu/people/bio\\_rtarr.htm](http://rapter.ist.ucf.edu/people/bio_rtarr.htm)
- Bryan Vila, Professor & Director
  - Operational Tasks Simulation Laboratory, Sleep & Performance Research Center
  - Washington State University, Spokane
  - [http://www.spokane.wsu.edu/Academics/crimj/crimj\\_vila.html](http://www.spokane.wsu.edu/Academics/crimj/crimj_vila.html)
- Kevin Wehr, Associate Professor
  - California State University, Sacramento – Department of Sociology
  - <http://www.csus.edu/soc/faculty/wehr.html>
- Jerry Williams, Associate Research Professor
  - University of Colorado Denver – School of Public Affairs
  - <http://www.cudenver.edu/Academics/Colleges/SPA/FacultyStaff/Faculty/Pages/JerryWilliams.aspx>

Each researcher serves as a principal investigator on his/her own study while simultaneously working collaboratively with one or more team members and with the larger team as a whole. This design incorporates peer review and complimentary research components. Research support is provided by CalPOST and volunteer LEAs, as well as through graduate students from research team members' affiliated institutions. CalPOST Sr. Consultant Bryon Gustafson manages the research team and also has an affiliation with the University of Colorado Denver.

### Proposed Research: Phase III

CalPOST's proposed third phase of research builds on previous inquiries. Planned experiments include a fully-controlled laboratory study of the impacts of fatigue and distraction on driving performance as measured via law enforcement driving simulator (LEDS) and bio-physiological measurements. Observational studies will include an epidemiological description of statewide collisions and a geographically focused case-control study of collision risk factors. In-depth case studies at matched-case LEAs will investigate LEA and LEO culture, effects of supervision and management practices, and effects of policies and procedures.

### In-Progress Research: Phase II

Two foundational efforts are currently underway to support future and longitudinal study of training and policy interventions relative to LEO traffic collisions. First, pilot studies of modified basic driver training programs are being implemented at several basic training academies throughout California. These programs include "best training practices" that were identified during Phase I research, including: use of law enforcement driving simulators (LEDS), high speed driving, night driving, and interference vehicle components to create a quasi-experimental interrupted time-series

design<sup>2</sup> at academies that did not previously utilize these methods. Performance data will simultaneously be collected for a longitudinal study of the effects of these different training methods.

Second, a survey of all California LEAs is being conducted to investigate differences in training programs, policies and procedures, scheduling/deployment practices, and similar variables of interest. These survey data will be (a) used to identify samples from the California LEA population as they are correlated with high- and low-performance LEAs (evidenced by collision rates identified through Phase I research), and (b) statically analyzed in conjunction with Phase I data to identify relationships among variables (distinguishing characteristics) across LEAs.

### Completed Research: Phase I – Driver Training Study: Volume I

Between October 2007 and October 2008, CalPOST conducted a survey-level investigation of law enforcement vehicle operations and training. This research included a literature review, extensive surveys, and statistical analysis of LEO training and collision data. This research amassed a wealth of data relative to differences in training programs and collision rates, and potential relationships among these and other related variables. This study also identified a number of “best training practices” in use at various LEAs across the nation that have been statistically proven to result in reduced traffic collision rates. These findings are available in CalPOST’s *Driver Training Study: Volume I*, available at [http://www.post.ca.gov/Publications/Driver\\_Training\\_Study/](http://www.post.ca.gov/Publications/Driver_Training_Study/).

### Connection to the National Occupational Research Agenda

The NIOSH NORA Public Safety Sub-Council (PSSC) updated its agenda for law enforcement in April 2009. CalPOST’s SAFE Driving Campaign is directly responsive to Strategic Goal 5 (“Evaluate information sources collected by partners or stakeholders that may be enhanced or expanded to conduct effective occupational health and safety surveillance among law enforcement workers.”) and its subcomponents and Strategic Goal 6 (“Reduce traumatic injuries and fatalities resulting from vehicle collisions involving law enforcement personnel by 15% by 2015.”) and its subcomponents.<sup>2</sup> No other research efforts are known to be responsive to this national agenda.

### Conclusions

CalPOST is advancing this national research agenda for the benefit of law enforcement nationwide. CalPOST has briefed and sought the participation of the National Institute of Justice (NIJ), the National Highway Traffic Safety Administration (NHTSA), NIOSH, and other national stakeholders to enhance this effort. Strategic partners are welcome and encouraged to join with CalPOST in its SAFE Driving Campaign.

### Contact for Questions or Comments

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<sup>1</sup> From Page 14 of the NIOSH April 2009 NORA for Public Safety; available online: <http://www.cdc.gov/niosh/nora/comment/agendas/pubsafsub/pdfs/PubSafSubApr2009.pdf>.

<sup>2</sup> Trainees are not randomly assigned; academy performance (as determined by both trainee driving performance and post-academy collision rates) is measured for several cohorts before and after introduction of the best practices training programs.

<sup>3</sup> The NIOSH NORA: <http://www.cdc.gov/niosh/nora/comment/agendas/pubsafsub/pdfs/PubSafSubApr2009.pdf>.